REMARKS

By this reply, claims 8-15 and 17-21 have been cancelled without prejudice to or disclaimer of the subject matter contained therein; and claims 4 and 5 have been amended without narrowing their scopes, leaving claims 3-5 and 16 pending in the application. Favorable consideration is respectfully requested.

Objection to Specification

The Office Action objects to the specification under 37 C.F.R. § 1.75(d)(1). As claim 11 has been cancelled, withdrawal of the objection is respectfully requested.

Objections to Claims

The Office Action objects to claims 4, 5 and 19-21. Claims 4 and 5 have been amended as suggested by the Examiner, and claims 19-21 have been cancelled. Withdrawal of the objections is respectfully requested.

Rejection Under 35 U.S.C. § 112, ¶ 2

Claims 8-15 and 17-21 stand rejected under 35 U.S.C. § 112, ¶ 2. As each of the rejected claims has been cancelled, this rejection is moot.

Rejections Under 35 U.S.C. § 102

A. Claims 8, 10 and 19 stand rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,931,638 to Krause et al. ("Krause") for the reasons stated at pages 5-6 of the Office Action. As claims 8, 10 and 19 have been cancelled, this rejection is moot.

B. Claims 8, 11, 14, 15 and 17-20 stand rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,052,889 to Abdel-Messeh ("Abdel-Messeh") for the reasons stated at pages 7-9 of the Office Action. As each of the rejected claims has been cancelled, this rejection is moot.

C. Claims 3, 5, 11-16, 18 and 21 stand rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,902,093 to Liotta ("Liotta") for the reasons stated at pages 9-11 of the Office Action. Claims 11-15, 18 and 21 have been cancelled. The rejection of claims 3, 5 and 16 is respectfully traversed.

Claim 16 recites a component of a fluid flow machine. The component comprises a coolant passage comprising at least one curved flow section configured to curve in a first flow direction to establish coolant medium flow in the first flow direction; and a second passage comprising an inspection aperture arranged and dimensioned to enable the introduction of a borescope through the inspection aperture and the second passage, and the second passage (i) branching off the coolant passage at the curved flow section and (ii) being arranged to extend in the first flow direction along a flow path which is tangential to the curved flow section.

In the exemplary embodiment of the claimed component shown in Figure 2, channel 7 branches off the cooling channel 4 at the curved flow section, i.e., the second passage separates from the cooling channel 4 at the curved flow section. The claimed at least one curved flow section is configured to **curve** in a first flow direction to establish coolant medium flow **in the first flow direction**. The claimed second passage also **extends in the first flow direction**, which is established by

the configuration of the curved flow section, along a flow path tangential to the curved flow section.

Liotta fails to anticipate the component of a flow machine recited in claim 16. The Office Action refers to the turbine blade 10 shown in Figure 2 of Liotta, and asserts that Liotta discloses a coolant passage comprising at least one curved section 40f (i.e., third bend 40f), a first section 40e (i.e., third pass 40e), a second section 40g (i.e., fourth pass 40g), and a second passage 44a (i.e., aperture 44a) allegedly comprising an "inspection aperture." The Office Action contends that the "curved section" 40f is configured to curve in a first flow direction to establish coolant medium flow in the first flow direction, and that "second passage" 44a branches off the coolant passage at the "curved section" 40f and is arranged to extend in the first flow direction along a flow path which is tangential to the curved section. Applicants disagree.

In Liotta's turbine blade 10 shown in Figure 2, the aperture 44a extends in the **same direction** as the third pass 40e. This fact is evidenced by the direction of the upward oriented arrow shown in the third pass 40e, and the direction of the smaller upward oriented arrow that extends into aperture 44a. As shown, these two arrows are **parallel** to each other. In contrast, claim 16 recites that the curved flow section is configured to **curve** in the first flow direction. The aperture 44a does **not** extend in a first flow direction, as recited in claim 16. Accordingly, because Liotta's turbine blade 10 does not include each and every feature of claim 16, Liotta does not anticipate claim 16.

Claim 3 and 5 are also not anticipated by Liotta for at least the same reasons as those for which claim 16 is not anticipated. Therefore, withdrawal of the rejection is respectfully requested.

Rejections Under 35 U.S.C. § 103

A. Claims 3, 4 and 16 stand rejected under 35 U.S.C. § 103(a) over Abdel-Messeh in view of U.S. Patent No. 5,603,606 to Glezer et al. ("Glezer") for the reasons stated at pages 11-13 of the Office Action. This rejection is respectfully traversed.

In the component recited in claim 16, the second passage comprises an inspection aperture arranged and dimensioned to enable the introduction of a borescope through the inspection aperture and the second passage. The second passage is sized to allow dust exhaust and also inspection, but is not sized for the purpose of cooling *per se*.

As indicated in the annotated version of Figure 5 of Abdel-Messeh shown at page 8 of the Office Action, the Examiner takes the position that Abdel-Messeh's turbine-airfoil includes a "curved section A" configured to curve in a first flow direction to establish coolant medium flow in that direction, and a "second passage B" with an "unnumbered inspection aperture." The Office Action acknowledges that Abdel-Messeh does not disclose that the second passage B is arranged and dimensioned to enable the introduction of a borescope through the inspection aperture and the second passage, and also that the second passage B has "obstructions" inside. However, the Office Action asserts that Glezer discloses a cooled turbine blade 114 having a tip passage 170 (i.e., horizontal gallery 170) and an "inspection aperture"

178 (i.e., exit opening 178). The Office Action further asserts that it would have been obvious to modify Abdel-Messeh's "second passage" so that it is "unobstructed" and dimensioned to enable the introduction of a borescope through the "inspection aperture" and "second passage" in light of Glezer. Applicants disagree.

Abdel-Messeh's "second passage B" is for the exhaust of cooling air only. Glezer's gallery 170 is also a cooling passage only. Neither Abdel-Messeh nor Glezer suggests that the air cooling passage should be sized for inspection.

Furthermore, Abdel-Messeh's "second passage B" includes a plurality of cooling pins. Applicants submit that one skilled in the art would not have modified Abdel-Messeh is turbine airfoil by removing the cooling pins as proposed in the Office Action, because this modification would result in undercooling and consequent overheating of areas of the turbine airfoil. As such, the modified turbine airfoil would be **unsatisfactory** for its intended purpose. According to M.P.E.P. § 2143.01(I), because the modified turbine airfoil would be unsatisfactory for its intended purpose, the Office has established no suggestion or motivation to make the proposed modification. Because the modified turbine airfoil would be unsuitable for its intended operation, the Examiner has not established why the proposed modification would have been desirable to one skilled in the art. However, as set forth in M.P.E.P. § 2143.01(I), the prior art **must** suggest the desirability of the claimed subject matter.

For at least the foregoing reasons, the applied references do not support the alleged *prima facie* obviousness. Thus, claim 16 is patentable.

Dependent claims 3 and 4 are also patentable for at least the same reasons as those for which claim 16 is patentable. Therefore, withdrawal of the rejection is respectfully requested.

B. Claim 9 stands rejected under 35 U.S.C. § 103(a) over Krause in view of U.S. Patent No. 3,628,885 to Sidenstick for the reasons stated at page 13 of the Office Action. As claim 9 has been cancelled, this rejection is moot.

Conclusion

For the foregoing reasons, allowance of the application is respectfully requested. If there are any questions concerning this response, to expedite prosecution, the Examiner is respectfully requested to contact the undersigned at the number given below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: August 4, 2006

By: _____
Edward A. Brown
Registration No. 35,033